

**WHAT IS CLAIMED IS:**

**1. A CCD-based biochip reader comprising:**

**a light source for emitting light beams,**

**a collimating lens for converting said light beams into wide parallel rays of light, passing said wide parallel rays of light through a biochip and exciting fluorescence from fluorescent targets on said biochip;**

**a focusing lens for focusing said fluorescence;**

**a filter for filtering out said parallel rays of light; and**

**a charge-coupled device camera for collecting images from said fluorescence.**

**2. The CCD-based biochip reader according to claim 1 further comprising an image converting device to converting said images into digital data.**

**3. The CCD-based biochip reader according to claim 1 further comprising a platform for holding said biochip and selectively moving in one direction.**

**4. The CCD-based biochip reader according to claim 3 further comprising a computer, wherein said computer comprises at least one set of parameters for controlling the directions of movement of said platform.**

**5. The CCD-based biochip reader according to claim 4, wherein said computer comprises at least one set of parameters for converting images of said charge-coupled device into digital data.**

**6. The CCD-based biochip reader according to claim 1, wherein said light beams comprises flat-top energy light beams.**